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REMARKS/ARGUMENTS

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The Action, together with the references that it relies upon, have been carefully reviewed, and the following is submitted in response. Applicant Smith & Nephew, Inc. greatly appreciates the Examiner's care in reviewing the application, conducting a search, and considering the presented claims.

I. Election/Restriction

The Action on page 2 requires affirmation of election of claims 1-12 in the application. Applicant affirms that election, cancels claims 13-23 without prejudice, and reserves the right to pursue those claims in other patent application proceedings.

II. The currently pending claims

Claims 1-12 are currently pending. Of those, claims 1 and 9 are independent. Claims 2-8 depend directly or indirectly from claim 1. Claims 10 - 12 depend directly or indirectly from claim 9.

The amendments above amend claim 1 to add additional clarity to the claim as originally presented, in the respect that the "first portion" and the "second portion" defined in the claim are portions of the "surface" defined in the claim. Applicant believes that this amendment does not change the scope of the claim but rather makes clearer what was already stated.

Briefly, claims 1 and 9 both define a reamer for reaming bone or cartilage during surgery. Claim 1 relates to a reamer that includes a generally dome shaped hollow body having a rotational axis. The surface is defined to form two portions: (1) a first portion which is dimensioned substantially as a surface of rotation about the rotational axis, and (2) a second portion that: (a) is not formed as a surface of rotation, (b) is located generally more closely to the rotational axis than the first portion; and (c) thereby reduces a dimension of the dome in at least one dimension transverse to the rotational axis. The "portions" referred to in this claim are thus portions of the "surface" referred to in the claim, rather than simply portions of the reamer.

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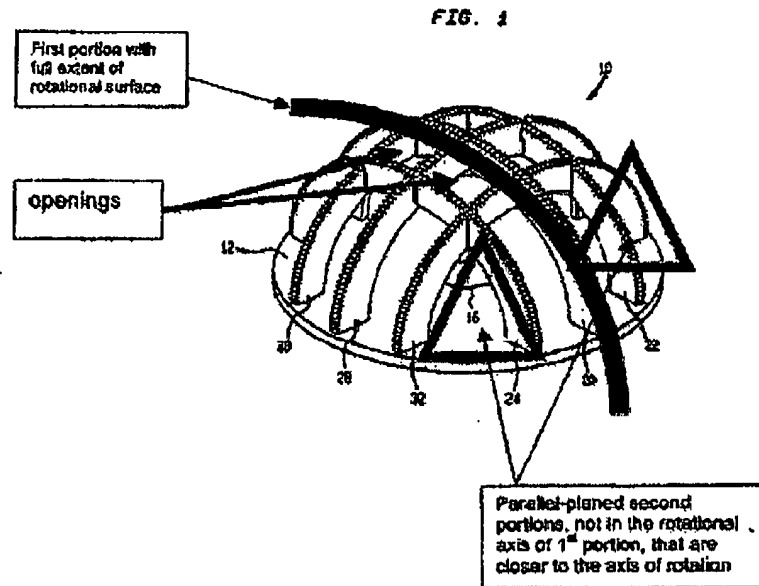
Claim 9 focuses on a reamer constituting a hollow body of a general dome shape, comprising a plurality of raised edges for cutting bone or cartilage, and a plurality of openings for passing of fragments of the bone or cartilage into the interior portion of the reamer. The raised edges according to claim 9 are confined to one or more sectors of the surface of the reamer, and the sectors occupy substantially less than half of the area of the surface of the reamer. Among other things, the claim makes clear that a "sector" for purposes of the claim is not the same as a "raised edge" since: (1) it requires that raised edges are confined to one or more sectors, and (2) it is a sector rather than a raised edge which is required to occupy substantially less than half the area of the surface of the reamer.

III. The rejection

Frieze, et al.

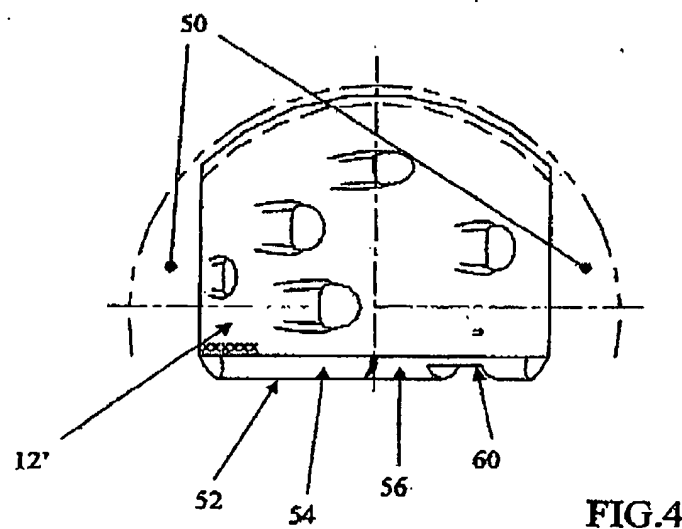
The Action rejects claims 1-5 and 8 under 35 U.S.C. § 102(b) as anticipated by USPN 5,775,719 to Frieze et al. The Action includes an annotated drawing from Frieze and says that "also shown below is the reamer disclosed by Frieze et al. having a first portion dimensioned as a surface of rotation, and a second portion not forming a surface of rotation that is generally located closer to the axis of rotation than the first portion." Action, p. 3. The Action indicates that the triangular sections shown on the drawing represent a portion of the Frieze reamer head that may be considered a second portion. A copy of the annotated Frieze drawing contained in the Action is reproduced below for convenience:

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Lechot

The Action additionally rejects claims 1-9 and thus independent claims 1 and 9, under 35 U.S.C. §102(e) as anticipated by U.S. Publication No. 2005/0075639 to Lechot. Figure 4 of Lechot referred to in the Action is reproduced below:



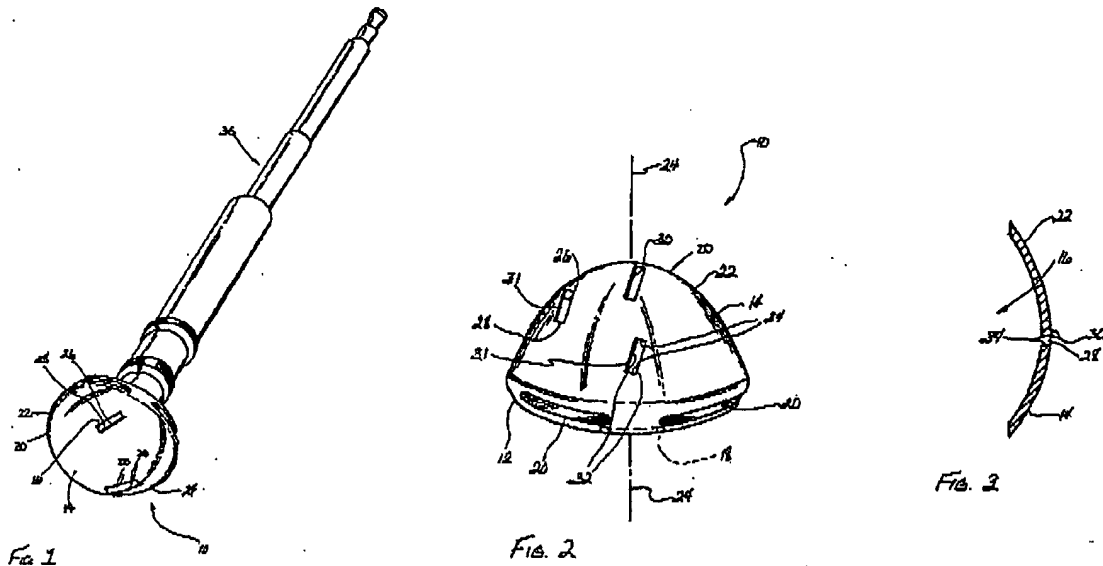
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The Action maintains that Lechot discloses a device having a hollow body with a surface (12'), a dome shape, a plurality of raised edges for cutting bone or cartilage, and a plurality of openings for passing fragments of bone into the interior of the reamer. The Action further says that "Lechot further discloses a reamer that has a first portion (12') and that also has a second portion (50) that does not form [a] surface of rotation and is closer to the axis of rotation (since these cut edges form a shortened outer rim of the reamer, closer to the axis). The Action reasons that the Lechot raised cutting edges are confined to the first portion of that reamer and that they "may be considered in multiple sectors, divided transversely across the first portion, or horizontally across its diameter, as individual or multiple cutting edges." Action, pp. 4-5.

Salyer

The Action also rejects claims 10-12 as obvious under 35 U.S.C. § 103(a) in view of the Lechot reference and USPN 5,116, 165 to Salyer. The Action says that Lechot discloses the claimed invention except for the cutting edges being confined to a band in the middle portion of the dome shape. It says that Salyer discloses a reamer that has cutting edges placed on the cutting surface in a band-like formation "wherein each cutting surface overlaps the previous one in a particular cutting direction," which is "considered form and function as a band of cutting edges." Action, p. 5. Figures 1-3 of Salyer are shown below:

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IV. Discussion

a. 35 U.S.C. § 102(b) rejection of claims 1-5 and 8 based on Frieze et al.

Claim 1 and thus of all of claims 2-5 and 8, require that the claimed "second portion" is a portion of the surface of the hollow body of the reamer, rather than merely a portion of the reamer. By contrast, the language in the Action refers to the "second portion" of Frieze as part of the Frieze reamer rather than as part of the surface. Action, p. 3 ("Also shown below is the reamer disclosed by Frieze et al. having . . . a second portion. . .") Consistent with that usage, it says, "For clarification, the triangular sections represent a portion of the reamer head that may be considered a second portion . . ." (Id.) However, those triangles in the drawing correspond to holes in the reamer rather than part of a surface of the reamer. Frieze accordingly fails to disclose a reamer with the required surface having the claimed first portion and second portion, and applicant respectfully requests that the anticipation rejection based on Frieze be reconsidered and withdrawn.

b. Rejection of claims 1-9 under 35 U.S.C. § 102(e) based on Lechot

The Action applies Lechot in a manner that recognizes that Lechot "second portion" 50 has been cut away. Action, p. 4 (Lechot "discloses a reamer that has a first portion (12') and that also has a second portion (50) that does not form a surface of rotation and is closer

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to the axis of rotation (since these cut edges form a shortened outer rim of the reamer, closer to the axis.”)

The claim 1 requirement that the “second portion” is part of the surface of the reamer provides an advantage of the claimed reamer over Lechot: Fragments of bone or cartilage passed into the interior portion of the reamer of claim 1 are confined by the reamer. As the specification states, “A distinguishing feature of the preferred embodiment is that the sides are enclosed, rather than being open, thereby maintaining the integrity of the interior cavity of the reamer so that the bone chips are contained therein during use.” (Application, p. 10, ll. 2 – 5.) By contrast, paragraph 33 of Lechot emphasizes that sections 50 as shown in Figure 4 have been removed, so that such fragments would not be contained during use. Nowhere does Lechot disclose the idea that the reamer should have a hollow body of a generally dome shape that has a surface with a second portion as required in claim 1.

As to claim 9, and because Figure 4 and paragraph 33 of Lechot make clear that portions 50 are removed rather than replaced with a surface, the raised edges of Lechot are not confined to one or more sectors of the surface of the reamer as required in claim 9, but rather appear across the entire surface of the reamer. In that vein, paragraph 32 of Lechot emphasizes that the cutting teeth 16 are arranged uniformly on the cutting shell rather than being in sectors: “Preferably, the reamer 10’ includes a series of cutting teeth 16 arranged uniformly and spaced apart on the cutting shell. These teeth 16’ may be arranged in a spiral arrangement on the cutting shell 12’.”

Furthermore, Lechot uses the word “sector” consistent with the idea that whenever there is a sector, it always contains part of a tooth 16’ rather than allowing the possibility of tooth-free sectors as in claim 9. Lechot, paragraph 30 (“For any given radial from the center of the acetabulum to the periphery, a different part of the sector is cut by different tooth 16’.”) By contrast, claim 9 makes clear that a sector is different than a raised edge. Instead sectors include raised edges, raised edges are confined to sectors, and it is the sectors rather than the raised edges which occupy substantially less than half of the area of the surface of the reamer. Application, claim 9. Accordingly, Lechot fails to disclose all elements of claim 9, including at least the sector requirement of claim 9.

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Applicant accordingly respectfully requests for the foregoing reasons that the anticipation rejection of claims 1-9 based on Lechot be reconsidered and withdrawn.

c. Rejection of claims 10-12 under 35 U.S.C. § 103(a) over Lechot in view of Salyer.

As a preliminary matter, part IV(b) above shows that Lechot fails to disclose at least the "sector" requirement of claim 9, but instead discloses that the preferred embodiment has uniform distribution of cutting teeth on the shell. Lechot accordingly fails to disclose at least that element of claims 10-12 which depend from claim 9.

With respect to Salyer, the Action characterizes Salyer as disclosing cutting edges placed on the cutting surface in a band-like formation where each cutting surface overlaps the previous one in a particular cutting direction, which is considered by the Action to be "in form and function a band of cutting edges." Action, p.5. However, Salyer discloses nothing about confining the raised edges to sectors on the surface of the reamer, as required in claims 10 – 12, much less in a band that straddles a middle portion of the dome shape as required in those claims.

The Action relies on Salyer Fig. 2 and Col. 3, ll. 30 – 44 and Col. 4, ll. 19 – 24 which among other things indicate that rotation of the Salyer reamer cup 10 about axis of rotation 24 causes each slot 28 to sweep an area before a respective cutter 26, which areas the Action appears to consider bands of the sort required in Claim 10. However, Salyer contains no disclosure which requires that the raised edges are confined to a sector on the surface of the reamer as required in claims 10 – 12, much less confined to a band on that surface as further required in claims 10 – 12. Furthermore, Fig. 2 of Salyer, which the Action relies on, makes it evident that the areas swept by the edges, which are characterized as bands in the Action, would correspond to more than half of the area of the surface of the reamer, which would contravene all of claims 10-12.

Additionally, there is nothing in Salyer or Lechot which teaches or suggests combining the particular geometrical arrangements of cutting edges 30 and 31 disclosed in Salyer with a reamer that is missing two sections 50 as disclosed in Lechot, to create a reamer in which raised edges are confined to one or more sectors of the surface of the

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reamer, and confined to a band straddling a middle portion of the dome shape of the reamer as required in all of claims 10-12. Instead, as mentioned in Section IV(b) above, Lechot suggests the opposite, that the distribution of edges be uniform over the surface of the reamer. Paragraph 32 of Lechot states: "Preferably, the reamer 10' includes a series of cutting teeth 16 arranged uniformly and spaced apart on the cutting shell. These teeth 16' may be arranged in a spiral arrangement on the cutting shell 12'."

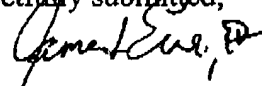
Additionally, the claim 9 (and thus 10 – 12) requirement that the raised edges are confined to one or more sectors on the surface of the reamer, which sectors occupy substantially less than half of the area of the surface of the reamer, address a need unmet and unsuggested by Lechot or Salyer. As the present application states regarding certain embodiments (including the embodiments of claims 10-12), "portions of the sides of the dome are free of the cutting edges, thereby allowing insertion of the reamer into the surgical site with minimal trauma to the soft tissues." Application, p. 10, ll. 13 – 15. Nothing in Lechot or Salyer teaches or suggests, singly or in combination, raised edges confined to one or more sectors on the surface of the reamer and confined to a band straddling a middle portion of the dome shape, whether or not for the purpose of reducing tissue damage. Accordingly, the Action fails to establish a prima facie case of obviousness and applicant respectfully requests that the rejection be reconsidered and withdrawn.

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CONCLUSION

For the reasons stated above, applicant respectfully submits that independent claims 1 and 9, and claims 2-8 and 10-12 which depend from them directly or indirectly respectively, are allowable, and applicant respectfully requests that they be allowed. The undersigned would be happy to address any questions the copy Examiner may have or be of assistance in any way.

Respectfully submitted,



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